

Substitute for form 1449A/PTO

## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet 1 of 11

### Complete if Known

Application Number	10/686,323
Filing Date	October 15, 2003
First Named Inventor	Cruz-Hernandez
Art Unit	2629
Examiner Name	Calvin Ma
Attorney Docket Number	IMM150 (51851-293432)

### U.S. PATENT DOCUMENTS

Examiner Initials *	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number - Kind Code <sup>2</sup> (if known)			
	1.	US- 2,524,782	10-10-1950	Ferrari et al.	
	2.	US- 3,490,059	01-13-1970	Paulsen et al.	
	3.	US- 3,623,046	11-23-1971	Scourtes	
	4.	US- 3,675,488	04-01-1975	Crocker et al.	
	5.	US- 4,050,265	09-27-1977	Drennen et al.	
	6.	US- 4,103,155	07-25-1978	Clark	
	7.	US- 4,125,800q	11-14-1978	Jones	
	8.	US- 4,148,014	04-03-1979	Burson	
	9.	US- 4,311,980	01-16-1982	Prusenziani	
	10.	US- 4,385,836	05-31-1983	Schmitt	
	11.	US- 4,391,282	07-05-1983	Ando et al.	
	12.	US- 4,400,790	08-23-1983	Chambers et al.	
	13.	US- 4,443,952	04-24-1984	Schulien et al.	
	14.	US- 4,546,347	10-08-1985	Kirsch	
	15.	US- 4,637,284	01-20-1987	Takahashi et al.	
	16.	US- 4,839,884	01-27-1987	Sagues	
	17.	US- 4,676,115	06-30-1987	Morschcheck et al.	
	18.	US- 4,678,908	07-07-1987	LaPlante	
	19.	US- 4,680,466	07-14-1987	Kuwahara et al.	
	20.	US- 4,692,726	08-08-1987	Green et al.	
	21.	US- 4,895,286	08-22-1987	Hui	
	22.	US- 4,699,043	10-13-1987	Violante De Dionigi	
	23.	US- 4,712,101	12-08-1987	Culver	
	24.	US- 4,724,715	02-18-1988	Culver	
	25.	US- 4,728,954	03-01-1988	Pheian et al.	
	26.	US- 4,734,685	03-29-1988	Watanabe	
	27.	US- 4,776,701	10-11-1988	Pettigrew	
	28.	US- 4,794,384	12-27-1988	Jackson	
	29.	US- 4,795,907	01-03-1989	Kitazawa	
	30.	US- 4,799,055	01-17-1989	Nestler et al.	
	31.	US- 4,803,413	02-07-1989	Kendig et al.	
	32.	US- 4,811,608	03-14-1989	Hilton	
	33.	US- 4,815,006	03-21-1989	Andersson et al.	
	34.	US- 4,819,195	04-04-1989	Bell et al.	
	35.	US- 4,823,106	04-18-1989	Lovell	
	36.	US- 4,825,157	04-25-1989	Mikan	
	37.	US- 4,840,834	06-20-1989	Muller et al.	

Examiner  
Signature

Date  
Considered

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO ADDRESS.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet 2 of 11

**Complete if Known**

Application Number	10/686,323
Filing Date	October 15, 2003
First Named Inventor	Cruz-Hernandez
Art Unit	2829
Examiner Name	Calvin Ma
Attorney Docket Number	IMM150

**U.S. PATENT DOCUMENTS**

Examiner Initials *	Cite No. <sup>1</sup>	Document Number Number - Kind Code <sup>2</sup> (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	38.	US- 4,851,771	07-25-1989	Ikeda et al.	
	39.	US- 4,880,051	08-22-1989	Taniguchi et al.	
	40.	US- 4,891,889	01-09-1990	Tomelleri	
	41.	US- 4,906,843	03-06-1990	Jones et al.	
	42.	US- 4,914,976	04-10-1990	Wyffie	
	43.	US- 4,935,725	06-19-1990	Turnau	
	44.	US- 4,935,728	06-19-1990	Kley	
	45.	US- 4,937,685	06-26-1990	Barker et al.	
	46.	US- 4,940,234	07-10-1990	Ishida et al.	
	47.	US- 4,949,119	08-14-1990	Moncrief et al.	
	48.	US- 4,962,448	10-09-1990	DeMato et al.	
	49.	US- 4,964,837	10-23-1990	Collier	
	50.	US- 4,985,448	10-23-1990	Vyse	
	51.	US- 4,982,504	01-06-1991	Soderberg et al.	
	52.	US- 5,006,703	04-09-1991	Shikunami et al.	
	53.	US- 5,024,626	06-18-1991	Robbins et al.	
	54.	US- 5,053,975	10-01-1991	Tsuchihashi et al.	
	55.	US- 5,062,830	11-05-1991	Dunlap	
	56.	US- 5,065,145	11-12-1991	Purcell	
	57.	US- 5,068,529	11-26-1991	Ohno et al.	
	58.	US- 5,079,845	01-14-1992	Childers	
	59.	US- 5,086,197	02-04-1992	Liou	
	60.	US- 5,095,303	03-10-1992	Clark et al.	
	61.	US- 5,107,080	04-21-1992	Rosen	
	62.	US- 5,113,179	05-12-1992	Scott-Jackson et al.	
	63.	US- 5,116,051	05-26-1992	Moncrief et al.	
	64.	US- 5,125,281	06-30-1992	Powley	
	65.	US- 5,132,927	07-21-1992	Lenoski et al.	
	66.	US- 5,136,154	08-11-1992	Hollings	
	67.	US- 5,139,261	08-18-1992	Openiano	
	68.	US- 5,148,377	09-15-1992	McDonald	
	69.	US- 5,155,423	10-13-1992	Karlen et al.	
	70.	US- 5,166,268	12-01-1992	Levy	
	71.	US- 5,182,557	01-26-1993	Lang	
	72.	US- 5,195,179	03-16-1993	Tokunaga	
	73.	US- 5,195,920	03-23-1993	Collier	
	74.	US- 5,202,961	04-13-1993	Mills et al.	

Examiner  
SignatureDate  
Considered

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinda Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing,

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO

# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet 3 of 11

## Complete If Known

Application Number	10/686,323
Filing Date	October 15, 2003
First Named Inventor	Cruz-Hernandez
Art Unit	2629
Examiner Name	Calvin Ma
Attorney Docket Number	IMM150

## U.S. PATENT DOCUMENTS

Examiner Initials *	Cite No.	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number - Kind Code <sup>2</sup> (if known)			
	75.	US- 5,204,600	04-20-1993	Kahkoska	
	76.	US- 5,209,131	05-11-1993	Baxter	
	77.	US- 5,216,337	06-01-1993	Orton et al.	
	78.	US- 5,223,658	06-29-1993	Suzuki	
	79.	US- 5,229,836	07-20-1993	Nagano	
	80.	US- 5,230,823	07-27-1993	Guthrie et al.	
	81.	US- 5,235,868	08-17-1993	Culver	
	82.	US- 5,239,249	08-24-1993	Ono	
	83.	US- 5,246,316	09-21-1993	Smith	
	84.	US- 5,247,848	09-21-1993	Watkins et al.	
	85.	US- 5,254,919	10-19-1993	Bridges et al.	
	86.	US- 5,275,565	01-04-1994	Moncrief	
	87.	US- 5,280,276	01-18-1994	Kwok	
	88.	US- 5,284,330	02-08-1994	Carlson et al.	
	89.	US- 5,289,273	02-22-1994	Lang	
	90.	US- 5,296,846	03-22-1994	Ledley	
	91.	US- 5,313,229	05-17-1994	Gilligan et al.	
	92.	US- 5,313,230	05-17-1994	Venolia et al.	
	93.	US- 5,317,336	05-31-1994	Hait	
	94.	US- 5,329,289	07-12-1994	Sakamoto et al.	
	95.	US- 5,341,459	08-23-1994	Backes	
	96.	US- 5,351,892	10-04-1994	Dow et al.	
	97.	US- 5,359,193	10-25-1994	Nyul et al.	
	98.	US- 5,374,842	12-20-1994	Gilligan et al.	
	99.	US- 5,379,663	01-10-1995	Hara	
	100.	US- 5,384,460	01-24-1995	Tseng	
	101.	US- 5,390,128	02-14-1995	Ryan et al.	
	102.	US- 5,390,296	02-14-1995	Crandall et al.	
	103.	US- 5,396,267	03-07-1995	Bouton	
	104.	US- 5,397,323	03-14-1995	Taylor et al.	
	105.	US- 5,398,044	03-14-1995	Hill	
	106.	US- 5,402,499	03-28-1995	Robison et al.	
	107.	US- 5,402,582	04-04-1995	Raeb	
	108.	US- 5,402,880	04-04-1995	Korenaga	

Examiner  
Signature

Date  
Considered

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the Empire must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet 4 of 11

**Complete if Known**

Application Number	10/686,323
Filing Date	October 15, 2003
First Named Inventor	Cruz-Hernandez
Art Unit	2629
Examiner Name	Calvin Ma
Attorney Docket Number	IMM150

**U.S. PATENT DOCUMENTS**

Examiner Initials *	Cite No <sup>1</sup>	Document Number Number - Kind Code <sup>2</sup> (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	109.	US- 5,417,696	05-23-1995	Kashuba et al.	
	110.	US- 5,428,746	06/27/1995	Davidson et al.	
	111.	US- 5,436,542	07-25-1995	Petelin et al.	
	112.	US- 5,436,640	07-25-1995	Reeves	
	113.	US- 5,452,615	09-26-1995	Hilton	
	114.	US- 5,457,479	10-10-1995	Cheng	
	115.	US- 5,457,793	10-10-1995	Elko et al.	
	116.	US- 5,467,763	11-21-1995	McMahon et al.	
	117.	US- 5,473,344	12-05-1995	Bacon et al.	
	118.	US- 5,474,082	12-12-1995	Junker	
	119.	US- 5,481,914	01-09-1996	Ward	
	120.	US- 5,491,477	02-13-1996	Clark et al.	
	121.	US- 5,512,919	04-30-1996	Araki	
	122.	US- 5,514,150	05-07-1996	Rostoker	
	123.	US- 5,524,195	06-04-1996	Clanton III et al.	
	124.	US- 5,526,022	06-11-1996	Donahue et al.	
	125.	US- 5,530,455	06-25-1995	Gillick et al.	
	126.	US- 5,543,821	06-06-1996	Marchis et al.	
	127.	US- 5,547,383	08-20-1996	Yamaguchi	
	128.	US- 5,550,562	08-27-1996	Aoki et al.	
	129.	US- 5,550,563	08-27-1996	Matheny et al.	
	130.	US- 5,570,111	10-29-1996	Barrett et al.	
	131.	US- 5,576,727	11-19-1996	Rosenberg et al.	
	132.	US- 5,583,407	12-10-1996	Yamaguchi	
	133.	US- 5,591,924	01-07-1997	Hilton	
	134.	US- 5,592,401	01-07-1997	kramer	
	135.	US- 5,604,345	02-18-1997	Matsuura	
	136.	US- 5,611,731	03-18-1997	Boulton et al.	
	137.	US- 5,623,562	04-22-1997	Rosenberg	
	138.	US- 5,623,642	04-22-1997	Katz et al.	
	139.	US- 5,627,531	05-06-1997	Posso et al.	
	140.	US- 5,628,688	05-13-1997	Svancarek et al.	
	141.	US- 5,635,897	06-03-1997	Kuo	
	142.	US- 5,638,421	06-10-1997	Serrano et al.	
	143.	US- 5,652,603	07-29-1997	Abrams	

Examiner  
SignatureDate  
Considered

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. \* Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet 5 of 11

**Complete If Known**

Application Number	10/686,323
Filing Date	October 15, 2003
First Named Inventor	Cruz-Hernandez
Art Unit	2629
Examiner Name	Calvin Ma
Attorney Docket Number	IMM150

**U.S. PATENT DOCUMENTS**

Examiner Initials *	Cite No.	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number - Kind Code <sup>2</sup> (if known)			
	144.	US- 5,666,138	09-09-1997	Culver	
	145.	US- 5,680,141	10-21-1997	Didomenico et al.	
	146.	US- 5,691,747	11-25-1997	Amano	
	147.	US- 5,691,898	11-25-1997	Rosenburg et al.	
	148.	US- 5,694,153	12-02-1997	Aoyagi et al.	
	149.	US- 5,722,071	02-14-1998	Berg et al.	
	150.	US- 5,724,106	03-03-1998	Autry et al.	
	151.	US- 5,724,264	03-03-1998	Rosenburg et al.	
	152.	US- 5,734,108	03-31-1998	Walker et al.	
	153.	US- 5,740,083	04-14-1998	Anderson et al.	
	154.	US- 5,745,057	04-28-1998	Sasaki et al.	
	155.	US- 5,749,577	05-12-1998	Couch et al.	
	156.	US- 5,755,820	05-26-1998	Yamamoto et al.	
	157.	US- 5,763,874	06-09-1998	Luciano et al.	
	158.	US- 5,767,836	06-18-1998	Scheffer et al.	
	159.	US- 5,771,037	06-23-1998	Jackson	
	160.	US- 5,795,228	08-18-1998	Trumbull et al.	
	161.	US- 5,808,588	09-15-1998	Wu	
	162.	US- 5,808,803	09-15-1998	Chen	
	163.	US- 5,818,426	10-06-1998	Tiemey et al.	
	164.	US- 5,825,305	10-20-1998	Biferno	
	165.	US- 5,828,295	10-27-1998	Mittel et al.	
	166.	US- 5,831,593	11-03-1998	Rutledge	
	167.	US- 5,841,133	11-24-1998	Orni	
	168.	US- 5,841,423	11-24-1998	Carroll Jr. et al.	
	169.	US- 5,841,428	11-24-1998	Jaeger et al.	
	170.	US- 5,844,873	12-01-1998	heers	
	171.	US- 5,877,748	03-02-1999	Redlich	
	172.	US- 5,879,327	03-09-1999	Moreau DeFarges et al.	
	173.	US- 5,889,506	03-30-1999	Lopresti et al.	
	174.	US- 5,912,861	06-15-1999	Siddiqui	
	175.	US- 5,917,486	06-29-1999	Rylander	
	176.	US- 5,919,159	07-06-1999	Lilley et al.	
	177.	US- 5,929,607	07-27-1999	Rosenburg et al.	
	178.	US- 5,936,813	08-10-1999	Jaeger et al.	
	179.	US- 5,954,689	09-21-1999	Poulsen	
	180.	US- 5,963,196	10-05-1999	Nishimi et al.	
	181.	US- 5,986,638	11-16-1999	Cheng	

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. \* Applicant's unique citation designation number (optional). <sup>2</sup> See Kinda Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and

Substitute for form 1449A/PTO

# **INFORMATION DISCLOSURE STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet 6 of 11

## **Complete if Known**

Application Number	10/686,323
Filing Date	October 15, 2003
First Named Inventor	Cruz-Hernandez
Art Unit	2629
Examiner Name	Calvin Ma
Attorney Docket Number	IMM150

## **U.S. PATENT DOCUMENTS**

Examiner Initials *	Cite No. 1	Document Number	Publication Date MM DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number - Kind Code <sup>2</sup> (if known)			
	182	US- 8,017,273	01-25-2000	Peikay	
	183	US- 8,031,222	02-29-2000	Carapelli	
	184	US- 6,078,311	06-20-2000	Peikay	
	185	US- 6,078,876	06-20-2000	Rosenberg et al.	
	186	US- 6,084,587	07-04-2000	Tarr et al.	
	187	US- 6,097,499	08-01-2000	Casey et al.	
	188	US- 6,097,084	08-01-2000	Nuovo et al.	
	189	US- 6,104,379	08-15-2000	Petrich et al.	
	190	US- 6,183,364 B1	02-06-2001	Trovalto	
	191	US- 6,192,432 B1	02-20-2001	Silvka et al.	
	192	US- 6,241,574 B1	06-05-2001	Helbing	
	193	US- 6,259,433 B1	07-10-2001	Meyers	
	194	US- 6,280,327 B1	08-28-2001	Leifer et al.	
	195	US- 6,293,798 B1	08-25-2001	Boyle et al.	
	196	US- 6,295,608 B1	09-25-2001	Parkes et al.	
	197	US- 6,300,038 b1	10-09-2001	Shimazu et al.	
	198	US- 6,324,928	12-01-2001	Hughes	
	199	US- 6,349,301 B1	02-19-2002	Mitchell et al.	
	200	US- 6,418,329 B1	07-09-2002	Furuya	
	201	US- 6,546,390 B1	04-08-2003	Pollack et al.	
	202	US- 6,563,487	05-13-2003	Marlin et al.	
	203	US- 6,633,224 B1	10-14-2003	Hishida et al.	
	204	US- 6,837,281	10-28-2003	Yamamoto	
	205	US- 6,760,751 B1	07-06-2004	Hachiya et al.	
	206	US- 6,904,823	06-14-2005	Levin et al.	
	207	US- 7,038,887	05-02-2006	Vassallo et al.	
	208	US- 2001/0018354 A1	08-30-2001	Pigni	
	209	US- 2001/0045978 A1	11-29-2001	McConnell et al.	
	210	US- 2002/0072874 A1	06-13-2002	Crilon et al.	
	211	US- 2002/0142701	10-03-2002	Rosenburg	
	212	US- 2003/0043206 A1	03-06-2003	Duarte	
	213	US- 2003/0090460	06-15-2003	Schena et al.	
	214	US- 2003/0112269 A1	06-19-2003	Lentz et al.	
	215	US- 2003/0188594	10-09-2003	Levin et al.	
	216	US- 2004/0076444 A1	04-22-2004	Badovinsac et al.	
	217	US- 2004/0193393 A1	09-30-2004	Keane	
	218	US- 2005/0109145	05-28-2005	Levin et al.	
	219	US- 2005/0187747 A1	08-25-2005	Paxson et al.	
		US-			
		US-			
		US-			
		US-			
		US-			

Substitute for form 1449B/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet 7 of 11

**Complete if Known**

Application Number	10/686,323
Filing Date	October 15, 2003
First Named Inventor	Cruz-Hernandez
Art Unit	2629
Examiner Name	Calvin Ma
Attorney Docket Number	IMM150

**FOREIGN PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document		Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	† <sup>2</sup>
		Country Code <sup>3</sup> - Number <sup>4</sup> - Kind Code <sup>5</sup> (if known)					
	220.	WO 96/16397		05-30-1996	Immersion Human Interface Corp.		
	221.	WO 96/24398		08-15-1996	Weston Medical Ltd.		
	222.	WO 96/32679		10-19-1996	Highwaymaster Communications Inc.		
	223.	WO 00/77689 A1		12-21-2000	Triogo, Inc.		
	224.	WO 01/00630 A1		01-04-2001	Societe de Conseils De Recherche et D'Applications Scientifiques (S.C.R.A.S.)		
	225.	WO 01/67297 A1		09-13-2001	Tsunami Inc.		
	226.	WO 03/000319 A1		01-03-2003	Disetronic Licensing Ag		
	227.	EP 0 085 518 B1		08-16-1989	British Aerospace Public Limited Co.		
	228.	EP 0 358 989 B1		07-20-1994	Hilachi Ltd.		
	229.	EP 0 470 257 A1		02-12-1992	Fanuc Ltd.		
	230.	EP 0 875 819 B1		10-02-2002	Microsoft Corp.		
	231.	GB 2 237 160 A		04-24-1991	Cheetah International Ltd.		
	232.	GB 2 347 199 A		08-30-2000	Haptic Technologies Inc.		

Examiner  
SignatureDate  
Considered

\*EXAMINER. Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

† Applicant's unique citation designation number (optional).<sup>2</sup> Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Substitute for form 1449B/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet 8

of 11

**Complete if Known**

Application Number	10/686,323
Filing Date	October 15, 2003
First Named Inventor	Cruz-Hernandez
Art Unit	2629
Examiner Name	Calvin Ma
Attorney Docket Number	IMM150

**NON PATENT LITERATURE DOCUMENTS**

Examiner Initials *	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
	233.	ADELSTEIN, B., A Virtual Environment System for the Study of Human Arm Tremor. Submitted to the Dept. of Mechanical Engineering in partial fulfillment of the requirements for the degree of Doctor of Philosophy at the Massachusetts Institute of Technology, June 1989, pp. 1-253.	
	234.	ADELSTEIN, B. et al., Design and Implementation of a Force Reflecting Manipulandum for Manual Control Research, DSC-Vol. 42, Advances in Robotics, ASME 1992, pp. 1-12.	
	235.	AKAMATSU et al., Multimodal Mouse: A Mouse-Type Device with Tactile and Force Display, Presence, Vol. 3, No. 1 pp. 73-80, 1994	
	236.	ATIP98.059: Virtual Reality (VR) Development at SERI (Korea), Asian Technology Information Program (ATIP) July 20, 1998, pp. 1-9.	
	237.	AUKSTAKALNIS, S. et al., The Art and Science of Virtual Reality Silicon Mirage, 1992, Peachpit Press, Inc., Berkeley, CA, pp. 129-180.	
	238.	BAIGRIE, S. et al., Electric Control Loading-A Low Cost, High Performance Alternative, Proceedings, November 6-8, 1990, pp. 247-254	
	239.	BEJCZY, A. Sensors, Controls, and Man-Machine Interface for Advanced Teleoperation, Science, Vol. 208, No. 4450, 1980, pp. 1327-1335	
	240.	BEJCZY, A. et al., Kinesthetic Coupling Between Operator and Remote Manipulator, International Computer Technology Conference, The American Society of Mechanical Engineers, San Francisco, CA, August 12-15, 1980, pp. 1-9	
	241.	BEJCZY, A. et al., A Laboratory Breadboard System for Dual-Arm Teleoperation, SOAR '89 Workshop, JSC, Houston, July 25-27, 1989	
	242.	BEJCZY, A. et al., Universal Computer Control System (UCCS) for Space Telerobots, Jet Propulsion Laboratory, California Institute of Technology, Pasadena, CA, pp. 317-324.	
	243.	BJORK, S. et al., An Alternative to Scroll Bars on Small Screens, Play: Applied Research on Art and Technology, Victoria Institute, Box 620, SE-405 30 Gothenburg, Sweden, pp. 1-2.	

Examiner Signature	Date Considered
--------------------	-----------------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



Substitute for form 1449B/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet 9 of 11

**Complete if Known**

Application Number	10/686,323
Filing Date	October 15, 2003
First Named Inventor	Cruz-Hernandez
Art Unit	2629
Examiner Name	Calvin Ma
Attorney Docket Number	IMM150

**NON PATENT LITERATURE DOCUMENTS**

Examiner Initials *	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
	244	BOUGUILA, L. et al., Effect of Coupling Haptics and Stereopsis on Depth Perception in Virtual Environment, Precision and Intelligence Laboratory, Tokyo Institute of Technology, 4259 Nagatsuta cho Midori ku Yokohama shi 226-8503-Japan.	
	245	BROOKS, T. et al., Hand Controllers for Teleoperation: A State-of-the-Art Technology Survey and Evaluation, 1995, NASA Jet Propulsion Laboratory, California Institute of Technology, Pasadena, CA.	
	246	BURDEA, G. et al., Distributed Virtual Force Feedback, IEEE Workshop on "Force Display in Virtual Environments and Its Application to Robotic Teleoperation," May 2, 1993, Atlanta, GA.	
	247	CALDER, B. et al., Design of a Force-Feedback Touch-Inducing Actuator for Teleoperator Robot Control, Submitted to the Department of Mechanical Engineering and Electrical Engineering in partial fulfillment of the requirements of the degree of Bachelors of Science in Mechanical Engineering and Bachelor of Science in Electrical Engineering at the Massachusetts Institute of Technology, May 1983.	
	248	CALDWELL, D. et al., Enhanced Tactile Feedback (Tele-Tactile) using a Multi-Functional Sensory System, Dept. of Electronic Eng., University of Salford, Salford, M6 4WT, UK, 1993	
	249	Cyberman Technical Specification, Logitech Cyberman SWIFT Supplement, Revision 1.0, April 5, 1994, pp. 1-29.	
	250	EBERHARDT, S. et al., OMAR-A Haptic Display for Speech Perception by Deaf and Deaf-Blind Individuals, IEEE Virtual Reality Annual International Symposium, September 18-22, 1993, Seattle Washington.	
	251	EBERHARDT, S. et al., Inducing Dynamic Haptic Perception by the Hand: System Description and Some Results, Dynamic Systems and Control, 1994, Volume 1, presented at 1994 International Mechanical Engineering Congress and Exposition, Chicago Illinois, November 6-11, 1994.	
	252	FUKUMOTO, M. et al., Active Click: Tactile Feedback for Touch Panels, NTT DoCoMo Multimedia Labs, Japan	
	253	GOBEL, M. et al., Tactile Feedback Applied to Computer Mice, International Journal of Human-Computer Interaction, Volume 7, No. 1, pp. 1-24, 1995	
	254	GOTOW, J. et al., Controlled Impedance Test Apparatus for Studying Human Interpretation of Kinesthetic Feedback, The Robotics Institute and Department of Mechanical Engineering, Carnegie Mellon University, Pittsburgh, PA 15213, pp. 332-337.	
	255	HANSEN, W., Enhancing Documents with Embedded Programs: How Ness extends Insets in the Andrew Toolkit, 1990, Information Technology Center, Carnegie Mellon University, Pittsburgh, PA 15213.	
	256	HASSER, C. et al., Tactile Feedback with Adaptive Controller for a Force-Reflecting Haptic Display Part 1: Design, 1996, Armstrong Laboratory, Human Systems Center, Air Force Materiel Command, Wright-Patterson AFB OH 45433.	

Examiner Signature	Date Considered
--------------------	-----------------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449B/PTO

# **INFORMATION DISCLOSURE STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet 10 of 11

## **Complete if Known**

Application Number	10/686,323
Filing Date	October 15, 2003
First Named Inventor	Cruz-Hernandez
Art Unit	2629
Examiner Name	Calvin Ma
Attorney Docket Number	IMM150

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials *	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
	257.	HASSER, C. et al., Tactile Feedback for a Force-Reflecting Haptic Display, Thesis Submitted to the School of Engineering of the University of Daytona, Daytona OH, December 1995.	
	258	HASSER, C. Force-Reflecting Anthropomorphic Hand Masters, Crew Systems Directorate Biodynamics and Biocommunications Division, Wright-Patterson AFB OH 45433-7901, July 1995, Interim Report for the Period June 1991-July 1995.	
	259.	HINCKLEY, K. et al., Haptic Issues for Virtual Manipulation, A Dissertation presented to the Faculty of the School of Engineering and Applied Science at the University of Virginia, in Partial Fulfillment of the Requirement for the Degree Doctor of Philosophy (Computer Science), December 1996.	
	260.	HOWE, R. A Force-Reflecting Teleoperated Hand System for the Study of Tactile Sensing in Precision Manipulation, Proceedings of the 1992 IEEE Conference in Robotics and Automation, Nice, France-May 1992.	
	261.	WATA, H., Pen-Based Haptic Virtual Environment, Institute of Engineering Mechanics, University of Tsukuba, Japan, 1993.	
	262.	JACOBSEN, S. et al., High Performance, Dextrous Tele robotic Manipulator with Force Reflection, Intervention/ROV '91, Conference & Exposition, May 21-23, 1991, Hollywood, FL.	
	263.	JOHNSON, A., Shape-Memory Alloy Tactile Feedback Actuator, Phase I-Final Report, Air Force SABIR Contract F33-88-C-0541, Armstrong Aerospace Medical Research Laboratory, Human Systems Division, Air Force Systems Command, Wright-Patterson Air Force Base, OH 45433.	
	264.	JONES, L. et al., A Perceptual Analysis of Stiffness, Experimental Brain Research, 1990, Vol. 79, pp. 150-158.	
	265.	KACZMAREK, K. et al., Tactile Displays, Virtual Environment Technologies, pp. 349-414.	
	266.	KELLEY, A. et al., MagicMouse: Tactile and Kinesthetic Feedback in the Human-Computer Interface using an Electromagnetically Actuated Input/Output Device, Department of Electrical Engineering, University of British Columbia, Canada, October 19, 1993.	
	267	Lake, S.L., Cyberman from Logitech, web site at <a href="http://www.ibtbio.org/GameBytes/issue21/greviews/cyberman.html">http://www.ibtbio.org/GameBytes/issue21/greviews/cyberman.html</a> , as available via the Internet and printed May 29, 2002	

Examiner Signature	Date Considered
--------------------	-----------------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Substitute for form 1449B/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet 11 of 11

**Complete if Known**

Application Number	10/686,323
Filing Date	October 15, 2003
First Named Inventor	Cruz-Hernandez
Art Unit	2629
Examiner Name	Calvin Ma
Attorney Docket Number	IMM150

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials *	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
	268.	MACLEAN, K., Designing with Haptic Feedback, Interval Research Corporation, 1801 Page Mill Road, Palo Alto, CA 94304, 2000.	
	269	MINE, M., ISAAC, A Virtual Environment Tool for the Interactive Construction of Virtual Worlds, Department of Computer Science, University of North Carolina Chapel Hill, 1995.	
	270	PICINBONO, G. et al., Extrapolation: A Solution for Force Feedback, Virtual Reality and Prototyping, June 1999, Laval, France	
	271.	WLOKA, M., Interacting with Virtual Reality, Science and Technology Center for Computer Graphics and Scientific Visualization, Brown University Site, Department of Computer Science, 1995.	
	272.	eRENA, Pushing Mixed Reality Boundaries, Deliverable 7b.1, Final, Version 1.0.	
	273	Real Time Graphics, The Newsletter of Virtual Environment Technologies and Markets, August 1998, Vol. 7, No. 2.	
	274	1998 IEEE International Conference on Robotics and Automation, May 16-20, 1998, Lueven, Belgium.	
	275	Office Action, US Patent Application 10/116,237 mailed 08/30/2003.	
	276.	Office Action, US Patent Application 10/116,237, mailed 12/02/2003	
	277	Office Action, US Patent Application 11/445,522, mailed 02/02/2007.	
	278	Office Action, US Patent Application 11/445,522, mailed 05/02/2007	
	279.	Office Action, US Patent Application 11/445,522, mailed 10/10/2007.	
	280	Patent Cooperation Treaty, International Search Report, International Application No. PCT/US03/10173, mailed 11/17/2003.	

Examiner Signature	Date Considered
--------------------	-----------------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 809. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22315-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.